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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,047	07/28/2005	Akihisa Tomita	266607US2XPCT	2952
22850 7590 07/22/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER CHAPEL, DEREK S				
ART UNIT 2872		PAPER NUMBER		
NOTIFICATION DATE 07/22/2008		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/526,047

Applicant(s)

TOMITA, AKIHISA

Examiner

DEREK S. CHAPEL

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-9 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1 and 3-9 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 28 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/S5108)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Status Of Claims

1. This Office Action is in response to an amendment received 5/1/2008 in which Applicant lists claim 2 as being cancelled, claims 1 and 3-5 as being currently amended, and claims 6-9 as being new. It is interpreted by the examiner that claims 1 and 3-9 are pending.

Allowable Subject Matter

2. The indicated allowable subject matter of claims 2 and 3 is withdrawn in view of the newly discovered 35 U.S.C. 101 and 35 U.S.C. 112 first paragraph and second paragraph rejections set forth below. The examiner sincerely regrets any inconvenience this may have caused the applicant.

Specification

3. The amendments to the specification dated 5/1/2008 are accepted. The objections to the specification cited in the office action mailed 2/1/2008 are hereby withdrawn.

Claim Objections

4. The amendments to the claims dated 5/1/2008 are accepted. The objections to the claims cited in the office action mailed 2/1/2008 are hereby withdrawn.

Claim Rejections - 35 USC § 112

5. The amendments to the claims dated 5/1/2008 are accepted. The rejections of the claims made under 35 USC 112 second paragraph and cited in the office action mailed 2/1/2008 are hereby withdrawn.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1 and 3-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. With respect to claims 1 and 5, there is no reference to the "first section", "second section" and "third section" in the specification or drawings and there is no structure in the claim to define these sections. Therefore, the "first section", "second section" and "third section" are considered new matter. Claims 3-4 and 6-9 are rejected for inheriting the same informalities through their dependency from claims 1 and 5 respectively.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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9. Claims 1 and 3-9 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: with respect to claims 1 and 5, it is not clear what makes up the "first section", "second section" and "third section" since they are not referred to in the specification and no structure has been claimed to define the sections. For instance, the "second section" is configured to sequentially supply a sequence of polarized light pulses representing a quantum bit string to the quantum circuit. However, it is not clear what supplies the light and what makes up the quantum circuit. Therefore, nothing makes up the "quantum circuit" except polarized light. Claims 3-4 and 6-9 are rejected for inheriting the same informalities through their dependency from claims 1 and 5 respectively.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 and 3-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. With respect to claims 1 and 5, the claimed invention is directed to a judicial exception to 35 U.S.C. 101 because it is an abstract idea because the claim does not require any physical characteristics and because polarized light, without any physical structure changing the polarization and making up

the circuit, is a natural phenomenon. Claims 3-4 and 6-9 are rejected for inheriting the same informalities through their dependency from claims 1 and 5 respectively.

Response to Arguments

11. Applicant's arguments, filed 5/1/2008, with respect to the rejections of the claims have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made under 35 U.S.C. 101 and 35 U.S.C. 112 first paragraph and second paragraphs, as set forth above.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEREK S. CHAPEL whose telephone number is (571)272-8042. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. S. C./
Examiner, Art Unit 2872
7/13/2008

/Arnel C. Lavarías/
Primary Examiner, Art Unit 2872